

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
17 November 2005 (17.11.2005)

PCT

(10) International Publication Number  
**WO 2005/107821 A1**

(51) International Patent Classification<sup>7</sup>: **A61L 2/03**,  
A23L 3/005

(74) Agent: **POLLACK, Jonathan**; Gowling Lafleur Hender-  
son LLP, Suite 4900, Commerce Court West, Toronto, On-  
tario M5L 1J3 (CA).

(21) International Application Number:  
PCT/CA2005/000699

(22) International Filing Date: 6 May 2005 (06.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/568,670 7 May 2004 (07.05.2004) US

(71) Applicant (for all designated States except US): **UNIVER-  
SITY OF WATERLOO** [CA/CA]; Technology Transfer  
and Licensing Office, 200 University Avenue West, Water-  
loo, Ontario N2L 3G1 (CA).

(72) Inventors; and

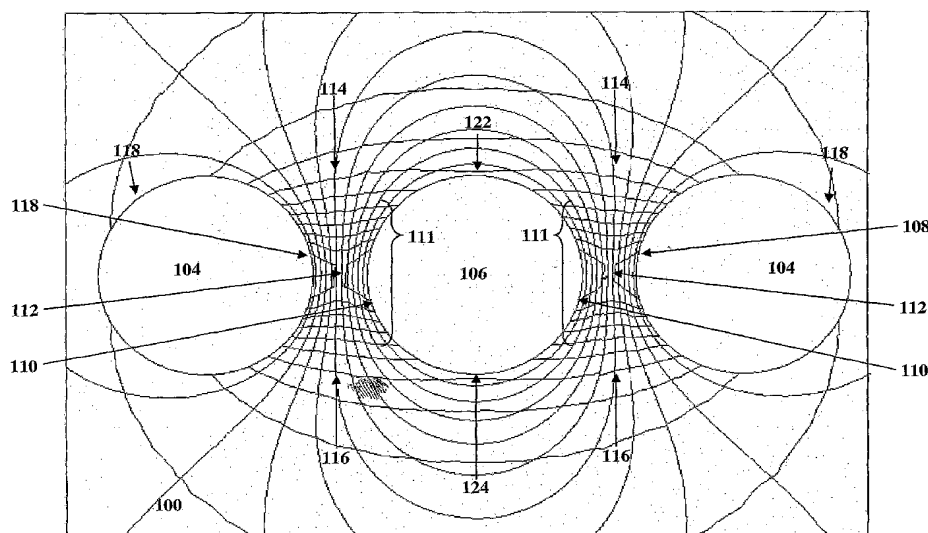
(75) Inventors/Applicants (for US only): **SHESHAKAMAL,  
H., Jayaram** [CA/CA]; 156 Westcourt Place, Waterloo,  
Ontario N2L 2R7 (CA). **KAMESWARA, Lolla, Rao**  
[IN/IN]; D-221, New Housing Colony, India Institute of  
Science Campus, Bangalore 560012 (IN).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,  
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,  
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,  
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ELECTRIC FIELD FLUID TREATMENT CHAMBER



(57) Abstract: A fluid treatment chamber is provided for the deactivation of microorganisms in a fluid. The fluid treatment chamber comprises a housing and an electrode assembly. The housing comprises a fluid inlet for receiving fluid to be treated and a fluid outlet for allowing treated fluid to be retrieved. The electrode assembly is located within the housing and comprises at least two electrodes for generating an electric field there between. The electrodes have opposing convex electrode surface sections defining there between a biconcave treatment zone for treatment of the fluid by the most intense electric field generated by the electrode assembly. The treatment zone comprises a channel between the opposing convex electrode surface sections through which the fluid is to flow to receive treatment. The channel width tapers towards a vertical midsection of the channel due to the convex configuration of the opposing electrode surface sections.

WO 2005/107821 A1



**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*